

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A network comprising:  
a status encoder comprising:  
a first pair of wires; and  
an encoding circuit connected to the first pair of wires, the encoding circuit to receive a battery status message, and simultaneously output a plurality of tones to the first pair of wires that represent a battery status as indicated in the battery status message, each tone representing a different battery status condition; and a high pass filter connected to the encoding circuit via the first pair of wires of a same battery.

2. (Currently Amended) The network of claim 1 wherein and further comprising a high pass filter connected to the encoding circuit via the first pair of wires, the high pass filter includes including a pair of capacitors connected to the first pair of wires, and being electrically connectable to a second pair of wires.

3. (Currently Amended) The network of claim 1 and further comprising:  
a high pass filter connected to the encoding circuit via the first pair of wires;  
and  
a second pair of wires connected to the high-pass filter, the second pair of wires to carry a DC voltage, the high-pass filter to superimpose the plurality of tones onto the DC voltage.

Claims 4-5 (Cancelled)

6. (Currently Amended) The network of claim 1 and further comprising:

~~a battery that has a battery voltage; and~~

a high pass filter connected to the encoding circuit via the first pair of wires;  
and

a control circuit that passes ~~the~~ a battery voltage to an output node electrically connected to a second pair of wires, the second pair of wires being electrically coupled to the first pair of wires via the high-pass filter.

7. (Currently Amended) The network of claim 6 and further comprising:

a low-pass filter connected to the output node;

a voltage sensor connected to the low-pass filter to sense a DC voltage on the output node; and

a battery controller connected to the encoding circuit, the control circuit, and the voltage sensor, the battery controller to determine [[a]] the battery status of the battery, and output the battery status message to the status encoder.

8. (Previously Presented) The network of claim 7 and further comprising a power supply electrically connected to the second pair of wires, the power supply to place a DC power supply voltage on the second pair of wires.

9. (Previously Presented) The network of claim 8 wherein the power supply comprises:

a third pair of wires;

a power supply circuit connected to the third pair of wires, the power supply circuit to receive an AC voltage, convert the AC voltage into the DC power supply voltage, and output the DC power supply voltage from the power supply circuit to the third pair of wires; and

a low-pass stage connected to the third pair of wires, and electrically connectable to the second pair of wires to pass the DC power supply voltage onto the second pair of wires, the low-pass stage including a pair of inductors connected to the third pair of wires, and electrically connectable to the second pair of wires, the pair of inductors blocking tones from reaching the power supply circuit.

10. (Original) The network of claim 9 and further comprising a twisted-pair cable that has a plurality of pairs of wires that include the second pair of wires.

11. (Previously Presented) The network of claim 10 and further comprising a network terminal that includes:

an input node electrically connected to the second pair of wires;

a voltage sensor electrically connected to the input node;

a network terminal controller connected to the voltage sensor; and

a status decoder electrically connected to the input node, the status decoder to receive the plurality of tones, and output battery status information represented by the tones to the network terminal controller.

12. (Currently Amended) The network of claim 1 and further comprising an uninterruptible power supply that has ~~a battery and~~ a status port that outputs the battery status message to the encoding circuit.

13. (Previously Presented) The network of claim 12 and further comprising:

a second pair of wires;

a third pair of wires;

a power supply circuit connected to the third pair of wires, the power supply circuit to receive an AC voltage, convert the AC voltage into a DC voltage, and output the DC voltage from the power supply circuit to the third pair of wires; and

a low-pass filter connected to the third pair of wires, and connectable to the second pair of wires, the second pair of wires being electrically coupled to the first pair of wires.

14. (Original) The network of claim 13 and further comprising a twisted-pair cable that has a plurality of pairs of wires that include the second pair of wires.

15. (Original) The network of claim 14 and further comprising a network terminal connected to the second pair of wires.

16. (Previously Presented) The network of claim 15 wherein the network terminal includes:

an input node connectable to the second pair of wires;  
a voltage sensor electrically connected to the input node;  
a network terminal controller connected to the voltage sensor; and  
a status decoder electrically connected to the input node, the status decoder to receive the plurality of tones, and output battery status information represented by the tones to the network terminal controller.

17. (Currently Amended) A network comprising:

a network terminal comprising:

a status decoder circuit having:

a first pair of wires; and

a decoding circuit connected to the first pair of wires, the decoding circuit to simultaneously receive a plurality of tones from the first pair of wires, and output a battery status message that represents a battery status as indicated by the plurality of tones, each tone representing a different battery status condition; ~~and a high pass filter connected to the first pair of wires, the high pass filter to block a DC voltage from the first pair of wires of a same battery.~~

18. (Currently Amended) The network terminal of claim 17 and further comprising:

a high-pass filter connected to the first pair of wires, the high-pass filter to block a DC voltage from the first pair of wires;

a low-pass filter connected to the high-pass filter;  
a voltage sensor connected to the low-pass filter to sense the DC voltage; and  
a controller connected to the voltage sensor and the decoding circuit to receive the battery status message.

19. (Currently Amended) A method of providing battery status information, the method comprising:

placing a DC voltage on a pair of wires; and  
simultaneously superimposing a plurality of tones on the DC voltage on the pair of wires, ~~the plurality of tones representing a status of a battery, the battery switchably providing a voltage to the pair of wires, each tone representing a different battery status condition of a same battery.~~

20. (Previously Presented) The method of claim 19 and further comprising detecting the plurality of tones, and determining a battery status from the plurality of tones.

21. (Currently Amended) A battery module comprising:  
a status encoder having:

a first pair of wires; and

an encoding circuit connected to the first pair of wires, the encoding circuit to receive a battery status message, and ~~output a single tone to the first pair of wires that represents a battery status as indicated in the battery status message; and a high pass filter connected to the first pair of wires, the high pass filter to block a DC voltage from the first pair of wires simultaneously output a plurality of tones to the first pair of wires that represent a battery status as indicated in the battery status message, each tone representing a different battery status condition of a single battery.~~

22. (Currently Amended) The battery module of claim 21 and further comprising:

a high-pass filter connected to the first pair of wires, the high-pass filter to block a DC voltage from the first pair of wires; and

a second pair of wires connected to the high-pass filter, the second pair of wires to carry the DC voltage, the high-pass filter superimposing the plurality of tones onto the DC voltage.

23. (Currently Amended) The battery module of claim 22 and further comprising: ~~a battery that has a battery voltage; and a control circuit that passes the~~ a battery voltage to an output node electrically connected to the second pair of wires.

24. (Currently Amended) The battery module of claim 23 and further comprising:

a low-pass filter connected to the output node;

a voltage sensor connected to the low-pass filter to sense a DC voltage on the output node; and

a controller connected to the encoding circuit, the control circuit, and the voltage sensor, the controller to determine [[a]] the battery status of the battery, and output the battery status message to the status encoder.

25. (Currently Amended) A network terminal comprising:

a status decoder circuit having:

a first pair of wires; and

a decoding circuit connected to the first pair of wires, the decoding circuit to ~~receive a single tone simultaneously receive a plurality of tones~~ from the first pair of wires, and output a battery status message that represents a battery status as indicated by the tone; ~~and a high pass filter connected to the first pair of wires, the high pass filter to block a DC voltage from the first pair of wires~~ plurality of tones, each tone representing a different battery status condition of a single battery.

26. (Currently Amended) The network terminal of claim 25 and further comprising:

a high-pass filter connected to the first pair of wires, the high-pass filter to block a DC voltage from the first pair of wires;

a low-pass filter connected to the high-pass filter;  
a voltage sensor connected to the low-pass filter to sense a DC voltage; and  
a controller connected to the voltage sensor and the decoding circuit to receive the battery status message.

27. (Currently Amended) A method of providing battery status information, the method comprising:

placing a DC voltage on a pair of wires; and  
simultaneously superimposing a single-tone plurality of tones on the DC voltage on the pair of wires, ~~the tone representing a status of a battery, the battery switchably providing a voltage to the pair of wires each tone representing a different battery status condition of a single battery.~~

28. (Currently Amended) The method of claim 27 and further comprising detecting the single-tone plurality of tones, and determining a battery status from the single-tone plurality of tones.

29. (New) A network device comprising:

an encoding circuit to receive a battery status message, and simultaneously output a plurality of tones that represent a battery status as indicated in the battery status message, each tone representing a different battery status condition of a same battery; and

a battery controller connected to the encoding circuit, the battery controller to determine the battery status, and output the battery status message to the encoding circuit.

30. (New) The network device of claim 29 and further comprising:

a charge control circuit connected to the battery controller and an output node, the charge control circuit to pass a battery voltage to the output node in response to a command from the battery controller, the output node passing the plurality of tones; and

a voltage sensor connected to the battery controller and the output node, the voltage sensor to sense a DC voltage on the output node, and output a current DC voltage level message to the battery controller.